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|------------------------------|------------------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/624,868 | BUCKNER, LYNN A. | |
| | Examiner | Art Unit | |
| | Christopher J. Novosad | 3641 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

6 OCT 06 Mailed To Jan

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 14, 16 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 14, 16 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

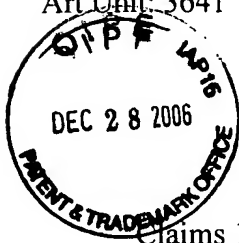
- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 1-11, 13, 15, 17 and 22 have been canceled.

Claims 12, 14, 16 and 18-21 remain in this application for examination.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “31” (Figs. 1 and 7) has been used to designate both the “controller 31” in Fig. 1 and the “liquid outlet 31” in Fig. 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are further objected to as failing to comply with 37 CFR 1.84(u) because separate views shown therein are not numbered with Figure numbers. Each of the separate end views shown below FIG. 2, FIG. 4 and FIG. 6, respectively, must be given a Figure number in the drawing, e.g., as FIG. 2A, FIG. 4A and FIG. 6A. Further, the use of two lead lines from **each** reference numeral “14” and “15” pointing to or denoting an element in two separate

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figures or views is objected to. For example, FIG. 2 and FIG. 2A should **each** show reference numerals “14” and “15” with appropriate lead lines.

Moreover, with the drawings so corrected, reference to each of these separate views must also be made in the specification, e.g., in the “Brief Description of the Drawings” and in the “Description of the Preferred Embodiment.”

Specification Objections

In page 5, line 19, “leass” should be corrected to -- less --.

The statement in the specification bridging pages 5 and 6 that “*Monitor/controller 16 sequences the opening and closing of valve 8, valve 7 and valve 5*” is questioned. First, no “Monitor/controller 16” is shown in any of the figures. Apparently monitor/controller 31 was meant instead. Second, assuming the latter, the specification in the above broad statement fails to comply with 35 U.S.C. 112, first paragraph, in that it does not provide a written description of the invention, and of the manner and process of making and using it, in such full, clear concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. Again, assuming monitor/controller 31 was meant, or that this is the same controller 31 shown in Fig. 7, it is not clear from either the written description or drawings how this monitor will be able to carry out the **sequential** functions of “opening and closing of valve 8, valve 7 and valve 5” as broadly described. Figure 1 shows controller 31 as being connected to or controlling **only valve 8**. However, there is no showing whatsoever of the controller 31 being connected to either of valves 5 and 7. If Fig. 7 is meant to be the same as controller 31, then it is not clear from this

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figure (from the detailed structure shown) how the automatic controller controls valve 8 or even valves 7 and 5 in the desired sequence.

The specification is further objected to in failing to comply with 37 CFR 1.75(d)(1) because the new term “**excavation**” used in parent claim 12 (Currently Amended) does not have clear support or antecedent basis in the specification. Appropriate amendment of the specification in this respect is required in order to insure certainty in construing the claims in the light of the specification. See MPEP § 608.01(o).

The abstract of the disclosure is objected to because it contains legal language, specifically “means” in line 1. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112 (first paragraph)

The following is a quotation of the first paragraph of 35 U.S.C. 112;

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, with which it is most nearly connected, to make and/or use the invention. Specifically, the recitation in claim 21 of “*wherein a processor controller means manages said container gaseous fill, or said liquid fill, or pressure within said container or said abrupt discharge of said propelled liquid, or said direction control of said propelled liquid*” is not described in the specification in such a way as to enable one skilled in the art to which it pertains, with which it is most nearly

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connected, to make and/or use the invention. The broad statement in the specification bridging pages 5 and 6 that “*Monitor/controller 16 sequences the opening and closing of valve 8, valve 7 and valve 5*” fails to provide an adequate description, nor does the drawing provide a detailed structural showing, as to how the monitor/controller can carry out the described sequential opening and closing of valves 8, 7 and 5. While Figure 1 shows controller 31 connected to or controlling **only valve 8**, there is no showing whatsoever of the controller 31 being connected to valves 5 and 7 so as to control the sequential opening and closing of these valves as broadly described. Moreover, if Fig. 7 is meant to be the same as controller 31, then it is not clear from this figure (from the detailed structure shown) how the automatic controller controls valve 8, or even valves 7 and 5 in the desired sequence.

Claim 21 is further rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter that fails to have any support in the **original** disclosure. In this respect the recitation in the claim that the processor/controller means manages “said *direction control* of said propelled liquid,” (emphasis added), in line 4, is not supported by the original disclosure, and is therefore **new matter**. Original claim 5, which is a part of the original disclosure, merely states that the “processor means controls the pressure, fill or discharge” but no mention is made in the original disclosure of the processor controlling the direction of the liquid discharge.

Claim Rejections - 35 USC § 112 (second paragraph)

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12, 14, 16 and 18-21 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which applicant regards as the invention.

In parent claim 12, line 4, there is no proper antecedent basis for the recitation of "said gaseous propellant." The claim, however, could be amended to avoid this rejection. e.g., by inserting --gas to provide a-- immediately prior to "gaseous" in line 4.

Dependent claims 14, 16 and 18-21 are indefinite for the same reason as parent claim 21 above.

In claim 18, line 3, and in claim 19, lines 4 and 5, the recitation respectively therein of "the substance being made vacuum able" has no proper antecedent basis in these claims or the parent claim.

Further, in claim 19, line 3, the word "orifices" has no proper antecedent basis. Only a single "orifice" is recited in parent claim 12.

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Claim Rejections – 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section of this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12, 14, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Voitsekhovsky *et al.* (USP 3,412,554), hereinafter referred to as Voitsekhovsky.

Regarding claim 12, Voitsekhovsky (Figures 1, 4 and 5) discloses a method of excavation (col. 8, lines 34-37) comprising the steps of:

providing a container (cylinder 1 with chamber 2) having means to first fill said container with a gas (col. 3, lines 65-74), and second, having means to add a liquid under pressure (col. 4, lines 3-15) into said container (1, 2) thus further compressing and pressurizing said gaseous propellant over said liquid, and said container (1, 2) having a dispensing orifice (jet head or orifice 88 in Figure 5), and having means to abruptly open said orifice (Col. 4, lines 22-56) thus said gaseous propellant propels said liquid from said container through said orifice (88, Fig. 5), and having a means (shape of the jet orifice 88 is in effect a conduit with axial opening 89) to direct said liquid in the direction to impact a target.

With respect to claim 14, note the diaphragm or piston 3 of Voitsekhovsky which is located between the liquid and said gas.

Regarding claim 16, the orifice or jet 88 with axial opening 89 of Voitsekhovsky (Fig. 5) which directs said liquid against the target is considered to be a conduit, as broadly recited in this claim.

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As to claim 20, Voitsekhovsky (Fig. 1) discloses sliding valve (20,21) for allowing gas to enter the chamber 2, valve 30, which controls liquid flow, and slide valve 15 opens discharge opening 14 (col. 4, lines 43-45) to allow the liquid to be abruptly dispensed from the container.

Claims 12, 14, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Lavon (USP 4,195,885).

With respect to claim 12, Lavon (Figures 1 to 5) discloses a method for breaking up or excavating hard compact material such as rock comprising the steps of:

providing a container (cylinder 13 with chambers 16, 18) having means to first fill said container with a gas (Fig. 1 at 35, and col. 3, lines 12-15), and second, having means to add a liquid under pressure (Figs. 1-5 at 33, 34, col. 3, lines 19-23) into said container (18, Figs. 2, 3) thus further compressing and pressurizing said gaseous propellant over said liquid, and said container (13, 18) having a dispensing orifice (barrel 19), and having means to abruptly open said orifice (26, 27, 29, Figs. 3 and 4 and col. 3, lines 41-48) thus said gaseous propellant propels said liquid from said container through said orifice (barrel 19), and having a means (the barrel 19 or orifice is a conduit) to direct said liquid in the direction to impact a target."

With respect to claim 14, note the diaphragm or piston (15) of Lavon which is located between the liquid and said gas.

Regarding claim 16, the orifice (barrel 19) of Lavon (Fig. 5) which directs said liquid against the target is a conduit, as broadly recited in this claim.

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As to claim 18, note that Lavon (col. 4, lines 58-60) discloses that a means for evacuating the hole 12 in the rock can be provided.

Allowable Subject Matter

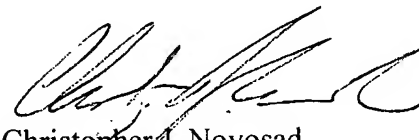
Dependent claim 19 would be allowable if rewritten in independent form to include all of the limitations of the base claim 12, and if amended to overcome the rejection under 35 U.S.C. 112, second paragraph, (lack of proper antecedent basis) set forth in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher J. Novosad whose telephone number is 571-272-6993. The examiner can normally be reached on Monday-Thursday 5:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached at 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christopher J. Novosad
Primary Examiner
Art Unit 3641

October 2, 2006

**Notice of References Cited**

Application/Control No.

10/624,868

Applicant(s)/Patent Under
Reexamination
BUCKNER, LYNN A.

Examiner

Christopher J. Novosad

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U.S. PATENT DOCUMENTS

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | Classification |
|---|---|--------------------------------------------------|-----------------|----------------------------------------|----------------|
| * | A | US-3,412,554 | 11-1968 | VJACHESLAVOVICH VOITSEKHOVSKY; et. al. | 60/532 |
| * | B | US-4,195,885 | 04-1980 | Lavon, Erik V. | 299/1.4 |
| | C | US- | | | |
| | D | US- | | | |
| | E | US- | | | |
| | F | US- | | | |
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NON-PATENT DOCUMENTS

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|-------------------------------------------------------------------------------------------|
| | U | |
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| | W | |
| | X | |

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.